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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,892	07/16/2003	Jang-Keun Oh	0001385/3062USU	8929

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EXAMINER

HOPKINS, ROBERT A

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,892

Applicant(s)

OH ET AL.

Examiner

Robert A. Hopkins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4-15-04, 11-17-05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

Claim 1 is objected to because of the following informalities:

Claim 1 lines 6-7 recites "to prevent the air from flowing back through the air outlet port".

Examiner respectfully requests applicant make the following amendments:

In claim 1 line 6 after "prevent" insert -- dust separated from --.

Examiner notes that page 5 line 24 of the specification recites "so as to prevent a backflow of the dust separated from the air through the air outlet port 122". Therefore the examiner's suggestion is to correct claim 1 so as to indicate that the dust separated from the air, and not the air itself, is prevented from flowing back through the air outlet port, as indicated by the noted lines in the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Hansen et al(6810557).

Hansen et al teaches a cyclone type dust collecting apparatus for a vacuum cleaner comprising a cyclone body(550) having an air inlet port(152) and an air outlet port(154) for forming a vortex current of air which is introduced through the air inlet port and contains dust, a dust collecting container(560) removably coupled to the cyclone body so as to collect the dust separated by centrifugal force of the vortex current in the cyclone body, a grill(louvers 570) disposed at an upstream portion of the air outlet port in the cyclone body to prevent the air from flowing back through the air outlet port, and a fine dust filtering means(572) disposed at a downstream portion of the grill(see figure 3) in the cyclone body to collect fine dust which passes through the grill.

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Choi et al(6648934).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Choi et al teaches a cyclone type dust collecting apparatus for a vacuum cleaner comprising a cyclone body(20) having an air inlet port(21) and an air outlet port(22) for forming a vortex current of air which is introduced through the air inlet port and contains

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dust, a dust collecting container(30) removably coupled to the cyclone body so as to collect the dust separated by centrifugal force of the vortex current in the cyclone body, a grill(110) disposed at an upstream portion of the air outlet port in the cyclone body to prevent the air from flowing back through the air outlet port, and a fine dust filtering means(130) disposed at a downstream portion of the grill(see figure 4) in the cyclone body to collect fine dust which passes through the grill.

Allowable Subject Matter

Claims 2-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 2 recites "wherein the cyclone body comprises a vortex current chamber formed with the air inlet port, a pressure drop chamber formed with the air outlet port, and also a path forming chamber for forming an air outlet guiding path by which the air containing the fine dust passing through the grill is flown from an upstream portion toward a downstream portion of the fine dust filtering means and then exhausted through the air outlet port". Both Hansen et al and Choi et al teach a filter downstream of a grill, but do not teach a pressure drop chamber formed with the air outlet port, and also a path forming chamber for forming an air outlet guiding path by which the air containing the fine dust passing through the grill is flown from an upstream portion toward a downstream portion of the fine dust filtering means and then exhausted through the air outlet port. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a pressure drop chamber formed with

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the air outlet port, and also a path forming chamber for forming an air outlet guiding path by which the air containing the fine dust passing through the grill is flown from an upstream portion toward a downstream portion of the fine dust filtering means and then exhausted through the air outlet port because neither Hansen et al nor Choi et al suggest such a modification. Claims 3-7 depend on claim 2 and hence are also allowed.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Examiner has reviewed the references cited as X references in the foreign search report dated 1-26-04 and has determined that the cited references are applicable against claim 1 of the current application. However , the references are only being cited as of interest due to the applicability of the references cited in the current office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Friday, 7am-4pm, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rah
December 8 ,2005


ROBERT A. HOPKINS
PRIMARY EXAMINER
A. U. 1724